

Claims

1. Circuit for clock synchronization between a first and second network unit (NTDM, NP), with a clock recovery unit (CR) for provision of at least one reference clock signal (RCLKn) being provided in the first network unit (NTDM),

5 characterized in that

at least one bus provision unit (CHn) with at least one encoding unit (KKn) is arranged in the first network unit and one encoding unit (KKn) in each case is used for forming a 10 channel signal (KSn) from the reference clock signal present in each case, with a bus signal (PWDC) being formed from at least one channel signal and forwarded to a decoder unit (DE) in the second network unit (NP).

2. Circuit arrangement in accordance with claim 1,

15 characterized in that

the encoding unit (KKn) is embodied such that a sequence of individual pulses with a defined distance is created from the reference clock signal (RCLKn) present on the input side.

3. Circuit in accordance with one of the previous claims,

20 characterized in that

the encoding unit (KKn) is embodied such that the defined distances of the pulses are characterized differently in each channel signal (KSn).

4. Circuit in accordance with one of the previous claims,

25 characterized in that

the encoding unit (KKn) is embodied such that the number of pulses created in each channel signal (KSn) corresponds to the maximum possible number(s) of the encoding units.

5. Circuit in accordance with one of the previous claims,

30 characterized in that

the encoding unit (KK<sub>n</sub>) is embodied such that  
the width of the pulses created (PW<sub>1</sub>, PW<sub>2</sub>, ..., PW<sub>n</sub>) is embodied  
differently.

6. Circuit in accordance with one of the previous claims,

5 characterized in that

the encoding unit (KK<sub>n</sub>) is embodied such that  
the width of the pulses created (PW<sub>1</sub>, PW<sub>2</sub>, ..., PW<sub>n</sub>) is embodied  
in ascending order.

7. Circuit in accordance with one of the previous claims,

10 characterized in that

the encoding units (KK) are embodied such that,  
no distinction is made with regard to pulse width formation  
below the encoding units.

8. Circuit in accordance with claim 1,

15 characterized in that

the bus provision unit (CH<sub>n</sub>) is embodied such that the channel  
signals (KS<sub>n</sub>) are grouped together via a summation unit (SB)  
and signal amplification units (BT) into a bus signal (PWDC).

9. Circuit in accordance with claim 1,

20 characterized in that

the second network unit is embodied such that the selection of  
the individual channel signals from the bus signal (PWDC) is  
executed independently by the second network unit (NP).

10. Circuit in accordance with claim 1,

25 characterized in that

the decoding unit (DE) features at least one pulse width  
filter (PWF).

11. Circuit in accordance with one of the previous claims,

characterized in that

30 the decoding unit (DE) features at least one pulse distance

filter (PDF).

12. Circuit in accordance with one of the previous claims,  
characterized in that

the decoding unit is embodied such that decoding is executed  
5 by means of a mask function, in that the received bus signal  
is not sampled and the selection occurs by masking out the  
pulses not required.

13. Method for clock synchronization between a first and  
second network unit (NTDM, NP), with a clock recovery unit

10 (CR) for provision of at least one reference clock signal  
(RCLKn) being provided in the first network unit (NTDM),  
characterized in that

a channel signal is formed from a reference clock signal in  
each case, with, in the first network unit (NTDM) a bus signal  
15 (PWDC) being formed from at least one channel signal and  
forwarded to the second network unit (NP).

14. Method in accordance with claim 13,

characterized in that

a sequence of individual pulses with a defined distance is

20 created from the reference clock signal (RCLKn) present on the  
input side.

15. Method in accordance with one of the previous claims,

characterized in that,

the defined distances of the pulses are characterized

25 differently in each channel signal (KS<sub>n</sub>).

16. Method in accordance with one of the previous claims,

characterized in that,

the number of pulses generated in each channel signal (KS<sub>n</sub>)

corresponds to the maximum possible number(s) of the encoding

30 units.

17. Method in accordance with one of the previous claims,  
characterized in that,  
the width of the pulses created (PW<sub>1</sub>, PW<sub>2</sub>, ..., PW<sub>n</sub>) is embodied  
differently.

5 18. Method in accordance with one of the previous claims,  
characterized in that,  
the width of the pulses created (PW<sub>1</sub>, PW<sub>2</sub>, ..., PW<sub>n</sub>) is embodied  
in ascending order.

10 19. Method in accordance with one of the previous claims,  
characterized in that,  
no distinction is made with regard to pulse width formation  
below the encoding units.

20. Method in accordance with one of the previous claims,  
characterized in that,  
15 the channel signals (KS<sub>n</sub>) are grouped into a bus signal  
(PWDC).

21. Method in accordance with one of the previous claims,  
characterized in that,  
the selection of the individual channel signals from the bus  
20 signal (PWDC) is performed independently by the second network  
unit (NP).

22. Method in accordance with one of the previous claims,  
characterized in that,  
decoding is undertaken in the second network unit (NP) by  
25 means of a mask function, in that the received bus signal is  
not sampled and the selection is made by masking out the  
pulses not required.